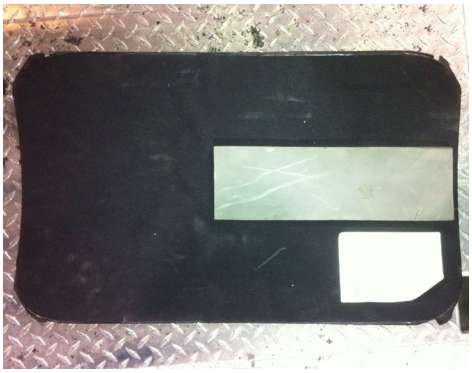
CASE STUDY :- TARGET APPLICATION

Police Shields



THE SITUATION

Many law enforcement agencies provide armor shields to protect their officers on duty. The shields are made of almost an inch of dense KEVLAR fiber wrapped in a nylon fabric, and are very expensive to replace. Large shields can run up to $2,000 each. Normal use conditions cause the thin protective nylon fabric to fray and tear easily, exposing the KEVLAR underneath to moisture. Water causes KEVLAR to expand, and the shields deteriorate quickly. With such a high price tag, law enforcement needs a way to extend the service life of its protective equipment.

THE SOLUTION

In batches of one or two, LINE-X coated the plates with XS-100 and PREMIUM for added UV protection. The coating was applied encapsulating the shields to provide a moisture barrier.

The application required approximately one hour of labor. LINE-X had the plates ready for use again in two days.

THE RESULTS

The police department was extremely pleased with the application. LINE-X protects the KEVLAR within the shields from moisture damage and it looks great. The newly coated shields do a much better job of aligning with the PD image than those with torn fabric. LINE-X increases the useful life of the shields and decreases costs.

Future options for the shields include embedding the squad car number or department logo in the LINE-X to help keep track of each shield and add to unity and pride.

THE PROCEDURE

The police department delivered the shields to LINE-X, who disassembled them by releasing the handle and removing the nylon fabric cover. The next part of the application is a little labor intensive since adhesive covers the shield under the nylon. Sanding the adhesive off is not an option because this breaks the KEVLAR strands causing them to unravel, ruining the shield. As an alternative, LINE-X applied a spray-on filler over the adhesive. While LINE-X does not bond to the adhesive, the filler adheres well to the adhesive, and LINE-X primer adheres to the filler well. Once set, the filler is sanded to smooth fibers and fuzz.

After sanding the filler, LINE-X applied SF-515 primer. The shields were then encapsulated with XS-100 to approximately 1/8” thick. LINE-X PREMIUM was applied.

The weight added to the shields was minimum so this was not an issue.